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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,339	07/02/2002	Jonathan Masel	56162.000339	8341

21967 7590 07/12/2005

HUNTON & WILLIAMS LLP
INTELLECTUAL PROPERTY DEPARTMENT
1900 K STREET, N.W.
SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER

TO, JENNIFER N

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/064,339

Applicant(s)

MASEL ET AL.

Examiner

Jennifer N. To

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/13/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-14 are presented for examination.
2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current title is imprecise.
3. The abstract of the disclosure is objected to because it is not disclosed the subject matter which applicant regards as the invention. Correction is required. See MPEP § 608.01(b). Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter in which the applicant regards as his invention.

5. Claims 4, 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The claim language in the following claims is not clearly understood:

- i. as per claim 4, lines 1-2, the phrase "one of" should be references to "or not and" as the presented claim (i.e. at least one of external memory accesses or task switched).

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- ii. as per claim 10, lines 1-2, it is not clearly understood what is meant by "the means for attempting is a processor executing a task" (i.e. the means for attempting to access the semaphore is a processor executing a task).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bachman et al. (hereafter Bachman) (U.S. Patent No.4318182).
8. As per claim 1, Bachman teaches the invention substantially as claimed including a method of employing semaphores to limit access to shared resource used by a multi-tasking processor (col. 26, lines 5-10; col. 38, lines 42-49), comprising:
 - storing an indication in memory that indicates whether the semaphore is occupied (col. 66, lines 12-21);
 - storing a second bitmap in memory that identifies tasks that are awaiting access to the semaphore (col. 65, lines 54-57); and
 - attempting to access the semaphore based on checking the indication in memory (col. 71, lines 53-68; col. 72, lines 1-18).

Bachman did not specifically teach providing a first bitmap in a register that prevents specified tasks from running because specified tasks are awaiting access to an occupied semaphore.

9. However, Bachman disclosed a system that preventing processes from interfering with each other or sharing each other's address space in an unauthorized manner by restricting addressability via memory segmentation (providing address space to processes) and by a ring system (col. 36, lines 54-67).

10. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that Bachman's by preventing processes from interfering with each other or sharing each other's address space in an unauthorized manner by restricting addressability via memory segmentation (providing address space to processes) and by a ring system is functional equivalent as providing a first bitmap in a register that prevents specified tasks from running. Therefore one would be motivated to use this system for detecting or preventing a deadlock occurred (Bachman, abstract, lines 1-3).

11. As per claim 2, Bachman teaches wherein a task checking the indication in memory determines that the semaphore is available, further comprising the steps of setting the indication to indicate that the semaphore is occupied and performing the processing for the task (col. 72, lines 7-35).

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12. As per claim 3, Bachman teaches wherein performing the processing for the task includes critical section execution (col. 86, lines 22-25).

13. As per claim 4, Bachman teaches wherein the critical section includes at least one of external memory accesses and task switches (col. 86, lines 22-35).

14. As per claim 5, Bachman further teaches the step of resetting the indication to indicate that the semaphore is available after the step of performing the processing for the task (col. 68, lines 28-33).

15. As per claim 6, Bachman further teaches the step of removing from the first bitmap those tasks now included in the second bitmap in memory that identifies tasks that are awaiting access to the semaphore, thereby allowing those tasks to be scheduled for access to the semaphore (fig. 14b).

16. As per claim 7, Bachman teaches wherein a task checking the indication in memory determines that the semaphore is occupied, further comprising the steps of including the task in the second bitmap and revising the first bitmap to reflect the task from the list in the second bitmap (col. 99, lines 15-23).

17. As per claim 8, Bachman further teaches the steps of removing the task from the second bitmap when the indication reflects that the semaphore is available and revising the first bitmap to reflect the tasks from the list in the

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second bitmap, thereby allowing the task to access the semaphore and perform the task processing (fig. 14b; col. 99, lines 15-23).

18. As per claim 9, this claim is a system claim that corresponds to method claim 1. Therefore, it is rejected with the same reason as claim 1.

19. As per claim 10, Bachman teaches wherein the means for attempting is a processor executing a task (fig. 10).

20. As per claim 11, Bachman teaches wherein the task is enabled to access the semaphore when the indication reflects that the semaphore is available (col. 72, lines 1-18).

21. As per claim 12, Bachman teaches wherein the task registers itself with the second bitmap and updates the first bitmap when the indication reflects that the semaphore is occupied (col. 99, lines 15-23).

22. As per claim 13, Bachman teaches wherein the task execution includes processing a critical section including at least one of external memory accesses and task switching (col. 86, lines 22-35).

23. As per claim 14, Bachman teaches wherein the indication in memory is reset to indicate that the semaphore is available after processing the critical section (col. 86, lines 28-33).

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Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer N. To whose telephone number is (571) 272-7212. The examiner can normally be reached on M-T 7AM- 4:30 PM, F 7AM- 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer N To
Examiner
Art Unit 2195


MENG-AI AN
JENNIFER N. TO
PATENT EXAMINER
EBC CENTER 2100